



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,303	08/03/2001	Nester P. Murphy	3691-131	5633

23117 7590 06/20/2003

NIXON & VANDERHYE, PC
1100 N GLEBE ROAD
8TH FLOOR
ARLINGTON, VA 22201-4714

14
EXAMINER

ROBERTSON, JEFFREY

ART UNIT

PAPER NUMBER

1712

DATE MAILED: 06/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/921,303

Applicant(s)

MURPHY ET AL.

Examiner

Jeffrey B. Robertson

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2003 :
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-20 and 55-63 is/are pending in the application.
- 4a) Of the above claim(s) 6-9,16-20,55,59-61 and 63 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 10-15 is/are rejected.
- 7) ☒ Claim(s) 4,5 and 56-58 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirai et al. (U.S. Patent No. 5,492,762).

For claims 10-12, in column 1, lines 10-23, Hirai teaches water-resistant coatings on substrates. In column 17, Table 5, Example 11, Hirai teaches in this example that the Haze is 0.0%, which is less than 3.0%, 2.0%, and 1.5%. In columns 15-16, Table 4, Hirai teaches that in Example 11, there is a conductive coating, coating solution 1, and a protective coating, Matrix A. In Table 3, columns 13 and 14, coating solution 1 is

Art Unit: 1712

defined as containing Matrix A. Matrix A is defined in columns 11 and 12, in Table 1 as containing a silica polymer derived from ethyl silicate. In column 5, lines 25-29, Hirai discloses that the alkoxy silanes are hydrolyzed into SiO_2 or silicon oxide. Thus, Hirai teaches a silicon oxide anchor layer since this layer is underneath the protective coating.

3. Claims 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Kon et al. (U.S. Patent No. 6,136,444).

In column 1, lines 5-17, and 44-52, Kon teaches that coated substrates are produced that have properties of solvent resistance to aqueous solvents. In column 3, lines 28-40, Kon teaches substrates that have a metal oxide underlayer, which contains additional layers such as a solvent resistant layer and a transparent electrically conductive layer. In column 6, lines 5-31, Kon teaches a silicon oxide metal oxide layer, where the Haze value is 1% or less. This is less than 3.0%, 2.0%, and 1.5%.

4. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Foresi et al. (U.S. Patent No. 5,841,931).

Upon closer inspection of the Foresi et al. reference, the examiner realized that the reference read additionally on original claims 2 and 3 as well as claim 1. The following rejection is made as a result of this realization.

The examiner is interpreting claim 1 as that the root mean square surface roughness applies to the whole coating and not just the anchor layer. In column 2, lines 55-65, Foresi teaches that a substrate is coated with a cladding layer that is silicon oxide, and that amorphous silicon is deposited over that layer. Here, Foresi also

teaches that the surface has a root mean square surface roughness of less than about 6 nm. In column 5, lines 4-12 and column 6, lines 20-40, Foresi teaches waveguides with silicon oxide cladding layers that have RMS roughness values of 3.7 nm. Foresi also teaches that the surface roughness of 4.5 nm. This is less than 5 as required by applicant in claim 1, and more than 4 as required by claim 3.

5. Claims 10, and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Newsham et al. (U.S. Patent No. 5,691,011).

For claims 10 and 13-15, in column 4, line 55 through column 5, line 27, Newsham teaches that silicon tetrachloride is reacted in the presence of a glass substrate at a relative humidity of 38-42%. Newsham then teaches that an alkylchlorosilane, n-Hexadecyltrichlorosilane, is deposited on top of this layer. Newsham fails to teach the silicon tetrachloride and the alkylchlorosilane is vapor deposited. However it is noted that claims 4, and 13-15 are product-by-process claims. There does not appear to be a difference in the resulting anchor layer since the silicon tetrachloride applied by Newsham is added neat. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process" In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

For claim 10, Newsham does not expressly teach the haze value of less than about 3.0%. However, since the anchor layer is deposited at a relative humidity of less than about 50%, this property would be inherent to the silicon oxide layer. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. In re Fitzgerald, 619 F. 2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)).

Response to Arguments

6. It is noted that applicant has not addressed the rejection of claims 10-15 over Hirai et al. (U.S. Patent No. 5,492,762), Kon et al. (U.S. Patent No. 6,136,444), and Newsham et al. (U.S. Patent No. 5,691,011) as set forth in the previous office action and repeated above. Therefore these rejections are continued. The objection to the specification and the rejections made under 35 U.S.C. §112, 2nd paragraph have been withdrawn in light of applicant's amendments and comments.

Allowable Subject Matter

7. Claims 4, 5 and 56-58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

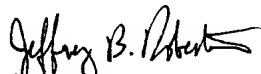
Conclusion

8. Due to the new grounds of rejection presented above in terms of the Foresi et al. reference, this action is not made final. The new grounds of rejection were not necessitated by applicant's amendment as original claims 2 and 3 were rejectable in the previous office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (703) 306-5929. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on (703) 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Jeffrey B. Robertson
Primary Examiner
Art Unit 1712

JBR
June 18, 2003